Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1. (currently amended) A diagnostic method for ~~quantifying~~ identifying a subject suffering from a symptom caused by traumatic brain injury (TBI) or characteristic of traumatic brain injury, comprising the steps of;

a. obtaining a sample of body fluid from [[a]] said subject;

b. ~~selecting at least one marker appropriate to the condition of said subject suffering from a symptom caused by TBI or characteristic of TBI~~ choosing a combination of markers selected from the group consisting of S-100β, neuron specific enolase (NSE), myelin basic protein (MBP), glial markers, neuronal markers and axonal markers; and

~~c. measuring concentration of said at least one marker in said sample; and~~

~~d. if required, further monitoring said subject as in preceding steps (a), (b), and (c), respectively, until said subject can be fully diagnosed.~~

c. analyzing said sample for an elevated presence of at least one of said combination of markers wherein said elevated presence

of at least one of said combination of markers identifies a subject suffering from a symptom caused by TBI or identifies a characteristic of TBI.

Claim 2. (currently amended) A method as in claim 1, wherein said sample of body fluid is serum, [[or]] plasma or cerebrospinal fluid.

Claims 3-7. (cancelled)

Claim 8. (currently amended) A method as in claim 1, wherein said ~~measuring concentration~~ analyzing is carried out by an immunoassay method.

Claim 9. (currently amended) A method as ~~defined~~ in claim 1, wherein ~~each of~~ said ~~analyses~~ analyzing is carried out on the same sample of body fluid.

Claim 10. (currently amended) A method as ~~defined~~ in claim 1, wherein ~~at least one of~~ said ~~analyses~~ analyzing is carried out on ~~a first sample of body fluid and at least another of said analyses is carried out on a second sample of body fluid~~ at least two samples of body fluid.

Claim 11. (currently amended) A method as ~~defined~~ in claim 10, wherein said ~~first and said second samples of body fluid are taken~~ at least two samples of body fluid are obtained at different time periods.

Claim 12. (currently amended) A method as in claim 1, further including the step of:

tracking concentration of said at least one of said combination of markers ~~marker~~ in said subject over a period of time.

Claim 13. (currently amended) A method as in claim 12, wherein tracking concentration of said at least one of said combination of markers ~~marker~~ is performed by a diagnostic procedure selected from the group consisting of radioimmunoassay and enzyme-linked immunoassay ~~method~~.

Claim 14. (currently amended) A method as in claim 13, wherein each of said ~~immunoassay method~~ diagnostic procedures ~~comprises~~ comprise contacting said sample of body fluid with an antibody which is specific for said at least one of said combination of markers ~~marker~~.

Claim 15. (currently amended) A diagnostic kit for ~~quantifying~~ identifying traumatic brain injury or a characteristic thereof comprising ~~at least three antibodies which are specific for each of three different marker proteins, said antibodies capable of being immobilized on a solid support, wherein~~ :

reagents for detecting S100β, NSE, MBP, glial markers, axonal markers, neuronal markers and immunologically detectable fragments thereof; wherein an elevated presence of at least one of a combination of markers selected from the group consisting of S100β, NSE, MBP, glial markers, axonal markers, neuronal markers and immunologically detectable fragments thereof is determined; whereby TBI or a characteristic thereof is identified

~~a. a first marker protein is the beta isoform of S-100 protein and a first antibody is specific therefor,~~

~~b. a second marker protein is neuron specific enolase and a second antibody is specific therefor,~~

~~c. a third marker protein is myelin basic protein and a third antibody is specific therefor, and~~

~~at least three labeled antibodies, each of said labeled antibodies having an affinity for one of said marker proteins~~.

Claims 16-20 (cancelled).

Claim 21. (currently amended) A method for confirming the occurrence of a traumatic brain injury event comprising the steps of:

a. analyzing a body fluid of a patient to detect the presence and concentration of a combination ~~at least one~~ of [[three]] markers of traumatic brain injury ~~wherein~~ selected from the group consisting of S-100β, neuron specific enolase, myelin basic protein, glial markers, neuronal markers and axonal markers;

~~i. a first marker is myelin basic protein,~~

~~ii. a second marker is the beta isoform of S100 protein, and~~

~~iii. a third marker is neuronal specific enolase,~~ and

b. comparing concentration of any of said markers of said combination whose presence is detected to specific threshold values of each of the markers to determine the presence of statistically significant concentrations thereof of at least about two standard deviations above normal levels; wherein said presence of statistically significant concentrations ~~step of comparing at least one of said three markers~~ confirms the occurrence of a traumatic brain injury event.

Claim 22. (currently amended) A method as ~~defined~~ in claim 21 wherein said body fluid is selected from the group consisting of blood, blood components and cerebrospinal fluid.

Claim 23. (currently amended) A method as ~~defined~~ in claim 21 wherein ~~each of~~ said ~~analyses~~ analyzing is carried out on a single sample of body fluid.

Claim 24. (currently amended) A method as ~~defined~~ in claim 21 wherein ~~at least one of~~ said ~~analyses~~ analyzing is carried out on ~~a first sample of body fluid and at least another of said analyses is carried out on a second sample~~ at least two samples of body fluid.

Claim 25. (currently amended) A method as ~~defined~~ in claim 24 wherein said ~~first and said second samples of body fluid are taken~~ at least two samples of body fluid are obtained at different time periods.

Claim 26. (currently amended) A method as ~~defined~~ in claim 21 wherein ~~at least one of~~ said ~~analyses~~ analyzing comprises contacting said body fluid with an antibody which is specific for [[said]] a marker selected from the group consisting of S-100ß, neuron specific enolase, myelin basic protein, glial markers, neuronal markers and axonal markers.

Claim 27. (currently amended) A method as ~~defined~~ in claim 26 wherein ~~at least one of~~ said ~~analyses~~ analyzing is carried out

[[with]] by an enzyme-labeled immunoassay method.

Claims 28-30. (cancelled)

Claim 31. (currently amended) A method as ~~defined~~ in claim 21 [[and]] further including [[the]] a step of analyzing a second sample of a body fluid from said patient ~~for at least one of said three markers,~~ wherein said second sample of a body fluid is [[being]] taken at a time subsequent to the time at which said body fluid analyzed in step a is taken.

Claim 32. (currently amended) A diagnostic kit for confirming the occurrence of a traumatic brain injury (TBI) event comprising:

a. at least three antibodies which are specific for each of three different marker proteins, said antibodies capable of being immobilized on a solid support, wherein

[[a.]] i. a first marker protein is myelin basic protein (MBP) and a first antibody is specific therefor,

[[b.]] ii. a second marker protein is the beta isoform of S100 (S-100β) protein and a second antibody is specific therefor, and

[[c.]] iii. a third marker protein is neuronal specific enolase (NSE) and a third antibody is specific therefor; [[, and]]

b. at least three labeled antibodies, each of said labeled antibodies binding to one of said marker proteins, and

[[e.]] c. means for comparing concentration of said three markers to specific threshold values of each of the said three markers to determine the presence of statistically significant concentrations thereof of at least about two standard deviations above normal levels; wherein said ~~step of comparing said three markers~~ presence of statistically significant concentrations confirms the occurrence of a traumatic brain injury event.

Claim 33.(currently amended) A diagnostic kit as ~~defined~~ in claim 32 wherein each of said three antibodies are immobilized on the same solid support.

Claim 34. (currently amended) A diagnostic kit as ~~defined~~ in claim 32 wherein at least one of said three antibodies is immobilized on a first solid support and at least another of said three antibodies is immobilized on a second solid support.

Claim 35. (currently amended) A diagnostic kit as ~~defined~~ in claim 32 wherein at least one of said labeled antibodies ~~comprises an enzyme-labeled antibody~~ is labeled with an enzyme.

Claim 36. (currently amended) A diagnostic kit as ~~defined~~ in claim 32 [[and]] further including a fourth antibody which is specific for a fourth marker protein, wherein said fourth marker

protein is cell type specific with respect to one of said first, second or third markers and has a correspondingly higher molecular weight than said first, second or third marker, and a fourth labeled antibody which binds to said fourth marker protein.

Claim 37. (currently amended) A diagnostic kit as ~~defined~~ in claim 36 wherein said fourth labeled antibody ~~comprises an enzyme-labeled antibody~~ is labeled with an enzyme.

Claim 38. (new) A diagnostic kit as in either claim 36 or 37 wherein said fourth marker protein is selected from the group consisting of glial markers, neuronal markers and axonal markers.